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Relevance scale ☐ ☐ ☐ ☐ ☐**1** [Session2: Interaction as a framework for flexible workflow modelling](#)

Håvard D. Jørgensen

September 2001

Proceedings of the 2001 International ACM SIGGROUP Conference on Supporting Group Work GROUP '01

Publisher: ACM Press

Full text available: pdf(282.94 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

There are a number of approaches to making workflow management systems more flexible. Most follow conventional notions of workflow models as formally complete and consistent, and look at how change can be handled by migrating instances from one stable state to another. This paper argues that *interaction* should be pursued more vigorously as an approach to enactment. In this framework, interpretation is not fully automated. Involving users in situated model interpretation, interactive enact ...

Keywords: flexible workflow, interaction framework, process modelling**2** [How can cooperative work tools support dynamic group process? bridging the specificity frontier](#)

Abraham Bernstein

December 2000

Proceedings of the 2000 ACM conference on Computer supported cooperative work CSCW '00

Publisher: ACM Press

Full text available: pdf(200.98 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In the past, most collaboration support systems have focused on either automating fixed work processes or simply supporting communication in ad-hoc processes. This results in systems that are usually inflexible and difficult to change or that provide no specific support to help users decide what to do next.

This paper describes a new kind of tool that bridges the gap between these two approaches by flexibly supporting processes at many points along the spectrum: from highly specified ...

Keywords: dynamic/improvisational change, mixed-initiative systems, process specificity, process support system**3** [Getting some perspective: using process descriptions to index document history](#)

Paul Dourish, Richard Bentley, Rachel Jones, Allan MacLean

November 1999

Proceedings of the international ACM SIGGROUP conference on Supporting group work GROUP '99

Publisher: ACM Press

Full text available: pdf(1.53 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Process descriptions are used in workflow and related systems to describe the flow of work and organisational responsibility in business processes, and to aid in coordination. However, the division of a working process into a sequence of steps provides only a partial view of the work involved. In many cases, the performance of individual tasks in a larger process may depend on interpretations and understandings of how other aspects of the work were conducted. We p ...

Keywords: awareness, process execution, process modeling, visualisation, workflow**4**[Freeflow: mediating between representation and action in workflow systems](#)



Paul Dourish, Jim Holmes, Allan MacLean, Pernille Marquardsen, Alex Zbyslaw

November 1996 **Proceedings of the 1996 ACM conference on Computer supported cooperative work CSCW '96**

Publisher: ACM Press

Full text available: pdf(1.13 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** constraints, dependencies, process description, process support, temporal organisation, workflow**5** Session2: Process descriptions as organisational accounting devices: the dual use of workflow technologies

Paul Dourish

September 2001

Proceedings of the 2001 International ACM SIGGROUP Conference on Supporting Group Work GROUP '01

Publisher: ACM Press

Full text available: pdf(150.23 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Workflow technologies present a problem for CSCW. On the one hand, they are perhaps the most successful form of groupware technology in current use; but on the other, they have been subject to sustained and cogent critiques, particularly from perspective of the analysis of everyday working activities. This leads inevitably to the question: in the face of these critiques, just why and how do workflow technologies prove effective? This paper suggests that part of the solution lies in the fact th ...

6 Tolerating exceptions in workflows: a unified framework for data and processes

Alex Borgida, Takahiro Murata

March 1999

ACM SIGSOFT Software Engineering Notes , Proceedings of the international joint conference on Work activities coordination and collaboration WACC '99, Volume 24 Issue 2

Publisher: ACM Press

Full text available: pdf(1.27 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Practical workflow systems need to be able to tolerate deviations from the initial process model because of un-anticipated situations. They should also be able to accommodate deviations in the format of the forms and data being manipulated. We offer a framework for treating both kinds of deviations uniformly, by applying ideas from programming languages (with workflow agents as potential on-line exception handlers) to workflows that have been reified as objects in classes with special attributes ...

Keywords: deviations, exception handling, reified process model, safety**7** Supporting activities: Roles and relationships for unified activity management

Beverly L. Harrison, Alex Cozzi, Thomas P. Moran

November 2005

Proceedings of the 2005 International ACM SIGGROUP conference on Supporting group work GROUP '05

Publisher: ACM Press

Full text available: pdf(216.62 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper reports on three ethnographic studies of how people coordinate their activities in various work settings. The findings reported here are a derived set of relationships reflecting the nature of involvement of people in their activities. These findings were then tested by six analysts, who were conducting field studies of patterns of complex business activities. They used the derived relationships in the analysis of their data and in the representation of activity patterns. These usage ...

Keywords: activity management, design, ethnographic study, prototyping, task management, to-do lists, user evaluation**8** Of maps and scripts—the status of formal constructs in cooperative work

Kjeld Schmidt

November 1997

Proceedings of the International ACM SIGGROUP conference on Supporting group work: the integration challenge GROUP '97

Publisher: ACM Press

Full text available: pdf(1.64 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**9** A social proxy for distributed tasks: design and evaluation of a working prototype

Thomas Erickson, Wei Huang, Catalina Danis, Wendy A. Kellogg

April 2004

Proceedings of the SIGCHI conference on Human factors in computing systems CHI '04

Publisher: ACM Press

Full text available:  pdf(639.03 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper describes an approach to managing tasks and processes that are distributed across a large number of people. The basic idea is to use a social visualization called a task proxy to create a shared awareness amongst the participants in a task or process. The process awareness provided by the task proxy enables its users to monitor the task state, the states of participants, and to communicate with those in particular states. We describe the concept, a first prototype, its evaluation, and ...

Keywords: CSCW, awareness, design, process awareness, social computing, social proxy, task support, visualization, workflow


10 [Software process modelling: A precedence-based approach for proactive control in software process modelling](#)



Josep M. Ribó, Xavier Franch
July 2002

Proceedings of the 14th international conference on Software engineering and knowledge engineering SEKE '02

Publisher: ACM Press

Full text available:  pdf(204.70 KB)Additional Information: [full citation](#), [abstract](#), [references](#)

We present the proactive behavioural features of PROMENADE, a process modelling language for formalizing the construction of software process models. PROMENADE aims at improving expressiveness, standardization, flexibility and reuse in software process modelling. In this article we focus on expressiveness, which is achieved by means of a declarative (instead of imperative) proactive control-flow based on precedence relationships. Different families of such precedences have been defined within th ...

Keywords: UML, proactive control, software process models


11 [Analyzing and redesigning a remote sensing business process for rapid estimates of agriculture in Europe](#)



Alexandre Zenié, Thomas Schäl
August 1995

Proceedings of conference on Organizational computing systems COCS '95

Publisher: ACM Press

Full text available:  pdf(1.36 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper1 describes the application of the ActionWorkflow™ approach to analyze a European project for monitoring agriculture from high resolution satellite images by using remote sensing techniques. The objective of this study was to improve and maintain coordination between the organizations involved in the remote sensing process which evolved from a pilot phase and became operational. The study of the existing process was supported by the work ...

12 [Information technology and organizational effects: supporting the sales process with workflow technology](#)



Jan Ljungberg, Peter Holm, Anders Hedman
April 1997

Proceedings of the 1997 ACM SIGCPR conference on Computer personnel research SIGCPR '97

Publisher: ACM Press

Full text available:  pdf(1.16 MB)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

13 [Two decades of the language-action perspective: Action and media in interorganizational interaction](#)



Göran Goldkuhl
May 2006

Communications of the ACM, Volume 49 Issue 5

Publisher: ACM Press

Full text available:  pdf(111.01 KB);  .html (26.50 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Coordinating the role of IT with business processes.

14 [Workflow management systems for financial services](#)



Thomas Schael, Buni Zeller
December 1993

Proceedings of the conference on Organizational computing systems COCS '93

Publisher: ACM Press

Full text available:  pdf(1.46 MB)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: business process automation, computer supported cooperative work, customer satisfaction,

groupware, office automation, office procedure, process reengineering, workflow management technology, workgroup computing

15 Organizational metaphors as lenses for analyzing workflow technology



Steinar Carlsen, Reidar Gjersvik

November 1997

Proceedings of the international ACM SIGGROUP conference on Supporting group work: the integration challenge GROUP '97

Publisher: ACM Press

Full text available: pdf(1.47 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: CSCW, flexible workflow technology, organization theory

16 Collaborative process patterns for e-Business



Prasad Jayaweera, Paul Johannesson, Petia Wohed

August 2001

ACM SIGGROUP Bulletin, Volume 22 Issue 2

Publisher: ACM Press

Full text available: pdf(812.81 KB)

Additional Information: [full citation](#), [abstract](#), [references](#)

The basic notions in computer supported work coordination in e-Business are communicative, institutional, and deontic notions such as obligation, responsibility, and trust. The Language Action approach that has a significant impact within CSCW, therefore, seems to be a most promising framework for designing e-Business systems. However, the penetration of the Language Action approach in industrial practice is still limited. We discuss some reasons for this state of affairs by identifying a number ...

17 Workflow = OIS? A report of a workshop at the CSCW '94 conference



Dirk E. Mahling, Carson Woo, Rick Blumenthal, Hans Schlichter, Thilo Horstman

August 1995

ACM SIGOIS Bulletin, Volume 16 Issue 1

Publisher: ACM Press

Full text available: pdf(742.27 KB)

Additional Information: [full citation](#), [abstract](#), [index terms](#)

The idea for this workshop was born during the 1993 Conference on Organizational Computing Systems (COOCS). Researchers and developers from academia and industry who attended the conference were sharing their observations and concerns on the absence of a connection between earlier work presented at COOCS and the current presentations of workflow systems.

Historically, COOCS has focused on office automation and office information systems (OIS). During the 1980s numerous OIS were pre ...

18 Specification and implementation of exceptions in workflow management systems



Fabio Casati, Stefano Ceri, Stefano Paraboschi, Guiseppe Pozzi

September 1999

ACM Transactions on Database Systems (TODS), Volume 24 Issue 3

Publisher: ACM Press

Full text available: pdf(250.40 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Although workflow management systems are most applicable when an organization follows standard business processes and routines, any of these processes faces the need for handling exceptions, i.e., asynchronous and anomalous situations that fall outside the normal control flow. In this paper we concentrate upon anomalous situations that, although unusual, are part of the semantics of workflow applications, and should be specified and monitored coherently; in most real-life applica ...

Keywords: active rules, asynchronous events, exceptions, workflow management systems

19 Automated process support for organizational and personal processes



Kevin Gary, Tim Lindquist, Harry Koehnemann, Ly Sauer

November 1997

Proceedings of the international ACM SIGGROUP conference on Supporting group work: the integration challenge GROUP '97

Publisher: ACM Press

Full text available: pdf(1.22 MB)

Additional Information: [full citation](#), [references](#), [index terms](#)

Keywords: components, personal process, workflow

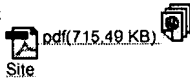
Workflow in different styles of virtual enterprise

Roger Tagg

January 2001

Australian Computer Science Communications , Proceedings of the workshop on Information technology for virtual enterprises ITVE '01 , Proceedings of the workshop on Information technology for virtual enterprises ITVE '01, Volume 23 Issue 6**Publisher:** IEEE Computer Society, IEEE Computer Society Press

Full text available:



Publisher

Additional Information: full citation, abstract, references, cited by

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Because of the many forms a Virtual Enterprise (VE) can take, there is no single model of what type of approach to workflow management is most appropriate. This paper is based on an analysis of the different types of business practice that lead to the formation of VEs. A number of different workflow scenarios are depicted, and four specific issues are then discussed. The first is the recognition of the different life cycle stages of a Virtual Enterprise. The second is the problem of workflow cas ...

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Relevance scale ☐ ☐ ☐ ☐ ☐**1** [Querying typed hypertexts in Multicard/O2](#)

Bernd Amann, Michel Scholl, Antoine Rizk

September 1994

'94**Publisher:** ACM Press

Full text available: pdf(893.43 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Due to the growing complexity of modern hypertext applications, current hypertext systems require new mechanisms to support authoring and user navigation through large sets of documents connected by links. A general solution is to extend hypertext systems to cater for semantics of application domains. This requires new hypertext models providing strongly typed documents and links. Such models have been proposed and put to use in systems such as HDM and MacWeb to facilitate authoring of larg ...

Keywords: browsing, hypertext querying, hypertext schema, visual interface**2** [Document engineering: New specialist tools for medieval document XML markup](#)

Georg Vogeler, Stefan Gruner, Benjamin Burkard

March 2007

Proceedings of the 2007 ACM symposium on Applied computing SAC '07**Publisher:** ACM Press

Full text available: pdf(240.38 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The digitalization of historical text documents as a basis of data mining and information retrieval for the purpose of progress in the history sciences is urgently needed. We present a novel, specialist XML *tool-suite* supporting the working historian in the transcription of original medieval charters into a machine-readable form.

Keywords: XML tagging, digitalization and preparation of medieval documents for the semantic web, history informatics, tool-support**3** [What makes the differences: benchmarking XML database implementations](#)

Hongjun Lu, Jeffrey Xu Yu, Guoren Wang, Shihui Zheng, Haifeng Jiang, Ge Yu, Aoying Zhou

February 2005 **ACM Transactions on Internet Technology (TOIT)**, Volume 5 Issue 1**Publisher:** ACM Press

Full text available: pdf(589.14 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

XML is emerging as a major standard for representing data on the World Wide Web. Recently, many XML storage models have been proposed to manage XML data. In order to assess an XML database's abilities to deal with XML queries, several benchmarks have also been proposed, including XMark and XMach. However, no reported studies using those benchmarks were found that can provide users with insights on the impacts of a variety of storage models on XML query performance. In this article, we report our ...

Keywords: XML query processing, XML storage model, benchmark**4** [Hyperdocuments as automata: verification of trace-based browsing properties by model checking](#)

P. David Stotts, Richard Furuta, Cyrano Ruiz Cabarrus

January 1998 **ACM Transactions on Information Systems (TOIS)**, Volume 16 Issue 1**Publisher:** ACM Press

Full text available:  pdf(474.20 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present a view of hyperdocuments in which each document encodes its own browsing semantics in its links. This requires a mental shift in how a hyperdocument is thought of abstractly. Instead of treating the links of a document as defining a static directed graph, they are thought of as defining an abstract program, termed the links-automaton of the document. A branching temporal logic notation, termed HTL*, is introduced for specifying properties a document should exhibit ...

Keywords: Petri nets, browsing semantics, hypermedia, hypertext, model checking, temporal logic

5 Selective text utilization and text traversal



Gerard Salton, James Allen


December 1993 **Proceedings of the fifth ACM conference on Hypertext HYPERTEXT '93****Publisher:** ACM PressFull text available:  pdf(1.20 MB)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: automatic text linking, full-text access, global text comparisons, information retrieval, local context checking, passage retrieval, selective text reading, text analysis, text summarization

6 Insights into the implementation and application of heterogeneous local area networks




William P. Lidinsky

October 1981 **ACM SIGCOMM Computer Communication Review , Proceedings of the seventh symposium on Data communications SIGCOMM '81, Volume 11 Issue 4****Publisher:** ACM PressFull text available:  pdf(822.70 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The ideal local area network is a mechanism which provides concurrent high speed error-free data paths over a limited geographical area and between any computational entities on the network. A computational entity may be a program running on any type of computer, any intelligent device, or any terminal. This means that such an ideal network must be able to support systems of cooperating processes within disjoint and dissimilar host environments. Achieving such an ideal heterogeneous ...

7 A framework of combining Markov model with association rules for predicting web page accesses

Faten Khalil, Jiuyong Li, Hua Wang

November 2006 **Proceedings of the fifth Australasian conference on Data mining and analytics - Volume 61 AusDM '06****Publisher:** Australian Computer Society, Inc.Full text available:  pdf(387.66 KB)Additional Information: [full citation](#), [abstract](#), [references](#)


The importance of predicting Web users' behaviour and their next movement has been recognised and discussed by many researchers lately. Association rules and Markov models are the most commonly used approaches for this type of prediction. Association rules tend to generate many rules, which result in contradictory predictions for a user session. Low order Markov models do not use enough user browsing history and therefore, lack accuracy, whereas, high order Markov models incur high state space ...

Keywords: Markov models, association rules, prediction

8 Workflow history management



Pinar Koksul, Sena Nural Arpinar, Asuman Dogac


March 1998 **ACM SIGMOD Record**, Volume 27 Issue 1**Publisher:** ACM PressFull text available:  pdf(238.54 KB)Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

A workflow history manager maintains the information essential for workflow monitoring and data mining as well as for recovery and authorization purposes. Certain characteristics of workflow systems like the necessity to run these systems on heterogeneous, autonomous and distributed environments and the nature of data, prevent history management in workflows to be handled by the classical data management techniques like distributed DBMSs. We further demonstrate that multi-database query processing ...

9 Open hypermedia and the web: The XML web: a first study



Laurent Mignet, Denilson Barbosa, Pierangelo Veltri

May 2003 **Proceedings of the 12th international conference on World Wide Web WWW '03****Publisher:** ACM PressFull text available:  pdf(726.59 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Although originally designed for large-scale electronic publishing, XML plays an increasingly important

role in the exchange of data on the Web. In fact, it is expected that XML will become the lingua franca of the Web, eventually replacing HTML. Not surprisingly, there has been a great deal of interest on XML both in industry and in academia. Nevertheless, to date no comprehensive study on the XML Web (i.e., the subset of the Web made of XML documents only) nor on its contents has been made. Th ...

Keywords: XML documents, XML web, statistical analysis, structural properties

10 WALT: a research environment for medical hypertext



Mark E. Frisse, Steve B. Cousins, Scott Hassan

September 1991 **Proceedings of the third annual ACM conference on Hypertext HYPERTEXT '91**

Publisher: ACM Press

Full text available: pdf(474.42 KB)

Additional Information: [full citation](#), [references](#), [index terms](#)

11 Paper session DB-2 (databases): security and privacy: The case for access control on XML relationships



Béatrice Finance, Saïda Medjdoub, Philippe Pucheral

October 2005 **Proceedings of the 14th ACM international conference on Information and knowledge management CIKM '05**

Publisher: ACM Press

Full text available: pdf(392.38 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

With the emergence of XML as the de facto standard to exchange and disseminate information, the problem of regulating access to XML documents has attracted a considerable attention in recent years. Existing models attach authorizations to nodes of an XML document but disregard relationships between them. However, ancestor and sibling relationships may reveal information as sensitive as the one carried out by the nodes themselves (e.g., classification). This paper advocates the integration of rel ...

Keywords: XML access control, XML relationship, data confidentiality, need-to-know and consent principles

12 Research session: integration and mapping #1: Information preserving XML schema embedding

Philip Bohannon, Wenfei Fan, Michael Flaster, P. P. S. Narayan

August 2005 **Proceedings of the 31st international conference on Very large data bases VLDB '05**

Publisher: VLDB Endowment

Full text available: pdf(241.56 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A fundamental concern of information integration in an XML context is the ability to *embed* one or more source documents in a target document so that (a) the target document conforms to a target schema and (b) the information in the source document(s) is *preserved*. In this paper, information preservation for XML is formally studied, and the results of this study guide the definition of a novel notion of *schema embedding* between two XML DTD schemas represented as graphs. Schem ...

13 Using information scent to model user information needs and actions and the Web



Ed H. Chi, Peter Pirolli, Kim Chen, James Pitkow

March 2001 **Proceedings of the SIGCHI conference on Human factors in computing systems CHI '01**

Publisher: ACM Press

Full text available: pdf(278.29 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

On the Web, users typically forage for information by navigating from page to page along Web links. Their surfing patterns or actions are guided by their information needs. Researchers need tools to explore the complex interactions between user needs, user actions, and the structures and contents of the Web. In this paper, we describe two computational methods for understanding the relationship between user needs and user actions. First, for a particular pattern of surfing, we seek to infer ...

Keywords: World Wide Web, data mining, information foraging, information retrieval, information scent, usability

14 Hyperdocuments as automata: trace-based browsing property verification



P. David Stotts, Richard Furuta, J. Cyrano Ruiz

December 1993 **Proceedings of the ACM conference on Hypertext ECHT '92**

Publisher: ACM Press

Full text available: pdf(895.60 KB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

15 Computer aided design system for logic equipment applied to design of electronic switching

equipment

Tatsuro Hirano, Kazuyuki Hirakawa

June 1973

Proceedings of the 10th workshop on Design automation DAC '73

Publisher: IEEE Press

Full text available:  pdf(633.35 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This description is intended for the purpose of relating a brief history of the development of the design automation system in our OKI Electric Industry Co., Ltd. and an outline of the design automation system used at present in our company; it relates specially an introduction of the package design system which is one of the subsystems in the design automation systems. Moreover, with regard to the electronic switching equipment, type DEX developed by the Nippon Telegraph & Telephone Pu ...


16 Preserving digital information forever

Andrew Waugh, Ross Wilkinson, Brendan Hills, Jon Dell'oro

June 2000

Proceedings of the fifth ACM conference on Digital libraries DL '00

Publisher: ACM Press

Full text available:  pdf(115.99 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Well within our lifetime we can expect to see most information being created, stored and used digitally. Despite the growing importance of digital data, the wider community pays almost no attention to the problems of preserving this digital information for the future. Even within the archival and library communities most work on digital preservation has been theoretical, not practical, and highlights the problems rather than giving solutions. Physical libraries have to preserve information ...


Keywords: archiving, digital preservation17 Information retrieval 1: Categorizing web search results into meaningful and stable categories using fast-feature techniques

Bill Kules, Jack Kustanowitz, Ben Shneiderman

June 2006

Proceedings of the 6th ACM/IEEE-CS joint conference on Digital libraries JCDL '06

Publisher: ACM Press

Full text available:  pdf(460.86 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

When search results against digital libraries and web resources have limited metadata, augmenting them with meaningful and stable category information can enable better overviews and support user exploration. This paper proposes six fast-feature techniques that use only features available in the search result list, such as title, snippet, and URL, to categorize results into meaningful categories. They use credible knowledge resources, including a US government organizational hierarchy, a themati ...


Keywords: browsing, categorization, classification, metadata, open directory, taxonomies18 Verification of a methodology for designing reliable communication protocols

Huai-An Lin, Ming T. Liu, Charles J. Graff

October 1983

ACM SIGCOMM Computer Communication Review , Proceedings of the eighth symposium on Data communications SIGCOMM '83, Volume 13 Issue 4

Publisher: ACM Press

Full text available:  pdf(788.50 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper we present a new methodology for designing reliable communication protocols. This methodology enhances communicating processes with a synchronization mechanism so that they can detect and resolve the errors caused by collisions automatically. The major advantages of this new methodology include: (1) the "state explosion" problem involved in protocol validation is alleviated; and (2) the burden of handling errors due to collisions is removed from the protocol design ...


19 Document analysis: Automatic categorization of figures in scientific documents

Xiaonan Lu, Prasenjit Mitra, James Z. Wang, C. Lee Giles

June 2006


Proceedings of the 6th ACM/IEEE-CS joint conference on Digital libraries JCDL '06

Publisher: ACM Press

Full text available:  pdf(699.42 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Figures are very important non-textual information contained in scientific documents. Current digital libraries do not provide users tools to retrieve documents based on the information available within the figures. We propose an architecture for retrieving documents by integrating figures and other information. The initial step in enabling integrated document search is to categorize figures into a set of pre-defined types. We propose several categories of figures based on their functionalities ...

Keywords: documents, feature extraction, figures, machine learning, scientific literature

- 20  [Finding expertise and information: Matching human actors based on their texts: design and evaluation of an instance of the ExpertFinding framework](#)
Tim Reichling, Kai Schubert, Volker Wulf
November 2005 **Proceedings of the 2005 international ACM SIGGROUP conference on Supporting group work GROUP '05**

Publisher: ACM Press

Full text available:  pdf(319.46 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bringing together human actors with similar interests, skills or expertise is a major challenge in community-based knowledge management. We believe that writing or reading textual documents can be an indicator for a human actor's interests, skills or expertise. In this paper, we describe an approach of matching human actors based on the similarity of text collections that can be attributed to them. By integrating standard methods of text analysis, we extract and match user profiles based on a la ...

Keywords: community building, expertise sharing, keyword extraction, knowledge management, latent semantic indexing, user profiling

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ever: some future technological development may really and truly eliminate our dependence on paper. But until then, we want to ensure a harmonious co-existence of paper and digital files by giving workers who deal with paper the benefit of database technology.

The current approach toward paper document is to scan them into digital form, and print them out when necessary. This works well for checks in a bank (customers still prefer to write paper checks). But it does not work well with non-standard input, e.g., letters from customers with odd-shaped attachments, because of the labor involved. Also, it is labor-intensive to carry out the scan-print cycle after every annotation on a document being routed⁵; and it is wasteful when the document is multi-page (most of the document may have to be reprinted). The use of Optical Character Recognition is seriously error-prone when handwriting is involved; as a result, scanning creates an image but this undermines the efficacy of search, the hallmark of digital documents. At a high level of abstraction, scanning and using tags may both be viewed as the application of technology to paper. But there are major practical differences: sticking an RFID tag is much easier and needs to be done once; it is not comparable with repeated scanning.

To summarize, in this paper we have argued that paper documents should be first-class citizens in a document model for an enterprise reflecting its de-facto status. Toward that end, we have proposed a Universal Enterprise Document Model. Our model is feasible to implement given recent technological developments in sensor technology and sensor data management. We have outlined how this model can be used to answer useful queries about the location of particular paper documents (the queries are based on their logical attributes, not merely on their identification numbers) as well as about the contents of paper repositories on desks or file cabinets or briefcases. The model helps the designer articulate various constraints that promote the integrity of the paper documents whose improved monitoring facilitate various practical operations including workflows.

For future work, we propose to add details to the model to support copies, versions, and access control. Further, we are working on the integration of the model with the business process management of the enterprise [12].

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⁵Of course, labor is cheap in large parts of the world, but scanning and eliminating paper may be counter-productive there since a PC on every desk is hardly realistic.